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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/308,303	05/17/1999	CHRISTIAN MENZEL	P99.0499	5981

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EXAMINER

PAN, YUWEN

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 08/27/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/308,303

Applicant(s)

MENZEL ET AL.

Examiner

Yuwen Pan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

1. Applicant's argument is that prior art of record does not disclose or suggest that a time slot for signaling in the uplink direction is exclusively allocated to a mobile station by the base station according to a predetermined sequence and the mobile station transmits signaling data in the allocated time slot, even when the mobile station transmits no packet data in the present and following macroframe. Transmitting signaling data of a mobile station independently of packet data and even when packet data are absent, ensures that the base station also receives signaling messages from the mobile station transmits no packet data.

The examiner does not agree because during communication between mobile and basestation, usually one time slot of each is assigned to the mobile for uplink or base station for downlink purpose. Same position of time slot in each frame would be allocated to either mobile or base station for transmitting and receiving. While one station is occupied one time slot, the same time slot would be allocated to second station for transmission, because it would cause collision. therefore there would be a sequential order among the assigned time slot. Second, Billstrom et al teach there is additional packet data functionality includes capability to provide one or more "shared" packet data channels (referred to as "PDCH"), depending on demand. In another word, the new logic type data information PDCH shared space/time slot with common packet data. Furthermore PDCH are used for data transfer and associated control signaling. So while no common packet data occupies a time slot, by demand, PDCH would be allocated to the time slot and carry control signaling from mobile station to Base station.

DETAILED ACTION

Claim Rejections - 35 USC § 102

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2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 18-24, 33, and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Billstrom et al (US005590133A).

Referring to claim 18 and 33, Billstrom et al disclose a method for configuring a radio interface between a mobile station and a base station of time-division multiplex mobile radio system for packet data transmission, including defining a transmission from a mobile station to the base station as an uplink direction, defining a transmission from the base station to a mobile station as a downlink direction (see column 18 and line 66-66), forming a channel by at least one time slot per a time-division multiplex frame, where the packet data transmission from a plurality of mobile stations takes place via the channel (see column 17 and line 33-45), combining 52 frames to form a macroframe (See figure 6), providing a time slot for signaling at cyclic intervals in the channel and allocating by the base station just one time slot exclusively for signaling for the uplink direction to the mobile station in accordance with a sequence which can be predetermined even in the mobile station does not transmit any packet data for the duration of a current and next macroframe, where in the mobile station transmit in the allocated time slot for signaling. See column 7 and line 1-27, and figure 1.

Referring to claim 19 and 34, Billstrom further teaches to determine a timing advance for the respective mobile station from transmissions by the mobile station in the allocated time slot;

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and transmitting the timing advance in a time slot for signaling in the downlink direction to the corresponding mobile station. See column 9 and line 30-67.

Referring to claim 20 and 21, Billstrom further teaches the timing advance and values for a transmission power setting from the time slots for packet data transmission independently of on another. See column 10, line 2-6, and column 11, line 27-46.

Referring to claim 23, Billstrom further teaches transmitting configuration data defined in the downlink direction in time slots for packet data transmission.

Referring to claim 24, Billstrom further teaches providing by the base station the timing advance for the configuration of the radio interface without being controlled by a base station controller. See column 10 line 1-6.

Referring to claim 27, Billstrom further teaches providing information in time slots for signaling with additional coding. See column 17 and line 32-49.

Referring to claim 28, Billstrom further teaches enabling the packet data transmission to take place in both the uplink and downlink directions independently of one another. See figure 13 and respective specification and column 7, line 20.

Referring to claim 29, Billstrom further teaches designating the mobile stations for packet data transmission by identifiers and allocating via the time slots for signaling in the downlink direction, one or more time slots for signaling in the uplink direction to the base stations by means of indicator messages which contain identifiers and time slot designations. See column 18 and line 8-27.

Referring to claim 30, Billstrom further teaches transmitting by a mobile station per time slot for signaling in the uplink direction; a self-contained message with contains a reception level of mobile station.

Referring to claim 22, Billstrom further teaches using long transmission block types for specific configuration data in the time slots for signaling in the uplink direction. See figure 13.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billstrom et al (US005590133A) in view of Hamalainen et al (US005640395A).

Referring to claim 25 and 26, Billstrom et al disclose an analogous method as cited in claim 18. Billstrom et al do not expressly disclose combining a plurality of time slots for signaling to form a signaling block in accordance with a sequence, which can be predetermined, wherein remaining time slots are provided for an adjacent cell measurement of the mobile station. Hamalainen et al disclose combining a plurality of time slots for signaling to form a signaling block in accordance with a sequence, which can be predetermined, wherein remaining time slots are provided for an adjacent cell measurement of the mobile station. See figure 3 and respective specification. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine a plurality of time slots for signaling to form a

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signaling block. One of ordinary skill in the art would have been motivated to do this since it is more predictable and controllable.

6. Claim 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Billstrom et al (US005590133A) as applied to claim 18 above, and further in view of Hamalainen et al (US005640395A) and Sowles et al (US005659545A).

According to claim 31 and 32, Billstrom et al further teach to provide transmissions, from the mobile station in the timeslots for signaling allocated to it (see column 16 and line 42-49, column 20 and line 13-28). Billstrom et al do not disclose that access blocks have an extended preceding or subsequent guard time, whose transmission time results from a preceding transmission time, a signaled time advance and an offset value such that a range which corresponds to the offset value is greater than the distance which the mobile station can travel between two transmissions for timing advance definitions at a maximum permissible speed. Hamalainen et al disclose access blocks having an extended preceding or subsequent guard time (see figure 4B). Hamalainen et al do not disclose transmission time results from a preceding transmissions time, a signaled timing advance and an offset value such that a range which corresponds to the offset value is greater than the distance which the mobile station can travel between two transmissions for timing advance definitions at a maximum permissible speed. Sowles et al disclose time and frequency offset is greater than the distance, which the mobile station can travel between two transmissions for timing advance definitions at a maximum permissible speed. See column 2, line 4-25 and column 8, line 20-46. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include guard time and offset to have correct synchronization with high speed moving transceivers. One of

ordinary skill in the art would have been doing this since guard time that avoid crosstalking between adjacent slots is well known in the art and offset is to achieve proper frame timing alignment, determine the correct downlink time-slot and correct for the Doppler-shift associated with fast movement.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuwen Pan whose telephone number is 703-305-7372. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


Yuwen Pan
August 21, 2003


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
8/25/03